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TRANSACTIONS
OF THE
ETHNOLOGICAL SOCIETY OF LONDON.

I.—*On the History and Migration of Textile and Tinctorial Plants in reference to Ethnology.* By J. CRAWFURD, ESQ., F.R.S.

[Read January 7th, 1868.]

IN cold and temperate regions, the earliest clothing of man would necessarily consist of the furs of wild beasts; but in warm and hot ones partially of these, but chiefly of vegetable substances, such as leaves and barks. Many of the savage tribes of America, of Australia, and of New Guinea, have not yet gone beyond this first stage. As in cold and temperate climates, the first step preceding the invention of textile fabrics consisted in the conversion of hair and wool into felt: in tropical ones, it would consist in a kind of paper or papyrus, such as that manufactured by the South Sea Islanders from the paper mulberry, or *Broussonetia papyrifera*, and with which the more advanced of them were all clothed when they were first seen by Europeans, and many still are so. The same plant is still cultivated in Japan and China for the manufacture of paper, and probably formed the clothing both of the Chinese and Japanese before the invention of textile fabrics. It may, indeed, fairly be conjectured that the papyrus of Egypt may have formed the summer clothing of the Egyptians before they invented the art of cultivating, dressing, spinning, and weaving flax. It corresponded with the felt of temperate regions.

The earliest vegetable textile material employed by the people of temperate climates would probably, in the absence of more obvious cotton, consist of flax or hemp; and the mummy shrouds of Egyptian tombs, which are invariably of linen, show that the cultivation, spinning, and weaving of the fibres of flax were known to the Egyptians at least 5,000 years ago. The culture of flax, with the manufacture of linen from it, was well known to the Jews: indeed, after

their long residence in Egypt, they could hardly have been ignorant of it, and accordingly mention is made of the plant at a time computed to be 1,450 years before the birth of Christ. The plant and fabrics made from it were also early known to the Persians, until superseded by cheaper cotton. Flax is still cultivated in Persia to a small extent, for the manufacture of a kind of cambric, known under the name of *ketan*. It has been long cultivated in Northern India, but for its seed only, which, in the warmer climates of that country, abounds in oil.

In Sanskrit, the name for flax is *alasi*, of which the *alsi* of the Hindi is but a corruption. The plant is unknown in Southern India, and indeed, I believe, in every tropical country. It is also unknown throughout China and Japan, as far as our knowledge extends, and in these countries a species of nettle, the *Urtica nivea* of botanists, takes its place.

The Greek name for flax, *linon*, is, as far as we know, a native word, and this would imply that the plant was indigenous in Greece, and its culture a native art. The Greeks may, indeed, have borrowed the plant, with the art of cultivating it, and of weaving a web from its fibres, from the Egyptians or the Phœnicians; but of this there is no evidence. Although its result was an article of superior value, it demanded more skill and labour than the corresponding tropical article of cotton. To judge by the name of the plant, which is essentially the same in Latin as in Greek, it was the Greeks who introduced the culture of flax into Italy. The *linum* of the Latin appears, of course, in all the languages derived from that tongue, as for example in the *lino* of the Italian, Spanish and Portuguese, and in the *lin* of the French. But it is not confined to these, for we find it in the Welsh and Armorican in the form of *llin*, and in the Gaelic of Scotland and Ireland in that of *lion*. The Teutonic languages have a native name for the plant, as in the German *flachs*, the Dutch *flas*, and our own *flax*, but in all these tongues the name for the manufacture is taken from the Latin. Thus we had ourselves at one time the word *line*, from the French *lin*, for the plant, from whence *linen*, and even *lint*, from the French *linge*. The Dutch and German *lein* has the same Latin origin. In so far, then, as language can be considered evidence, the plant and manufacture were introduced from Greece into Italy, and from Italy they were spread to Gaul, and from Gaul to Germany and Britain. Among the Germanic nations the same origin must be ascribed to the manufacture, although the plant itself may have been a native of Germany, and probably used by the rude inhabitants of that country for cordage, or at least for the manufacture of fishing and hunting nets.

Hemp, the *Cannabis sativa* of botanists, was well known to the ancients, by whom it was probably used for cordage, but not for the manufacture of any textile fabric. Its name, *Cannabis*, is the same in Greek as in Latin, from which we may conclude that the cultivation of the plant was introduced by the Greeks into Italy. In the languages derived from the Latin, we have the same word variously corrupted. Thus, in Italian we have it as *canapa*, in Spanish as *cañamo*, and in French as *chanvre*. The name has even reached tongues that are fundamentally different from Latin. So in the Gaelic or Irish, the name is *cainb*. The names given to the plant in the Teutonic languages have the same origin as the Anglo-Saxon *hænap*, the Swedish *hampa*, the Danish *hamp*, and the German *hanf*. These seem all corruptions of the Greek name; and, if this be the case, we go to Greece for the first introduction of hemp among the people of western Europe.

Hemp is cultivated in Persia to a small extent for the manufacture of cordage, but not of cloth, and chiefly for the intoxicating property of its leaves and flowers under the name bang. In India, the plant is found wild in the Himalaya mountains, but is also cultivated to be used as in Persia. I shall have occasion to treat of it for this use under the head of Narcotics in a future paper.

Cotton is the *Gossypium* of botanists. The word *Gossypium* is taken from the Greek name of a plant, said to have been cultivated in Upper Egypt, and supposed to be a species of cotton. It gives name to a genus of plants in the terminology of botanists, of which the number of species has been variously reckoned at from eight up to twenty, while the varieties of these are innumerable. The greater number of sorts are annual shrubs, cultivable from the Equator up to the thirty-sixth degree of latitude. Cotton is probably a native of most parts of tropical Asia, Africa, and even of America, but is unknown, whether wild or cultivated, in all the islands of the Pacific, in New Guinea, and in Australia, regions of the earth peculiarly deficient in the materials of vegetable food and clothing.

But the question of chief interest in the present Paper is the history of the cultivation of cotton, and its migration through man's agency. The Greeks who visited India subsequent to Alexander's incursion saw the cotton-plant growing, and the Hindus clothed in its wool, and the Greek merchants who traded with India through Egypt after the Roman conquest of that country describe cotton cloth among the imports and exports of the Indian emporia on the coast of Malabar. Thus, the *Periplus* of the Erythrean Sea expressly names "cottons

of all sorts," as being amongst the goods dealt in at Barugaza, one of these emporia. With all this it does not appear that the Greeks who visited India by land or sea, ever conveyed the cotton plant to the western countries of Asia, in all of which it is now a staple of agriculture. The cotton seed is not perishable, and might easily have been transported, and we must therefore conclude that the Greeks compared to the modern nations of Europe were an unenterprising and incurious people, and the conquering Romans no better.

In Sanskrit cotton is called *karpasa*, a name which we must presume to have been imposed by the people who spoke that language after their arrival in India, since we cannot suppose that they brought it with them from so uncongenial a locality as a high plateau of Central Asia, their attributed native country. This is not, however, the name by which the plant is known in the languages of India, distinct from the Sanskrit. In the Hindi, a tongue which has many words in common with the Sanskrit, the Sanskrit name is but a synonyme corrupted into *kapas*, the native name being *riù*. In the Tamil we have two names for the plant, *parsgi* and *paruti*. In the monosyllabic languages, which extend from Bengal to China, we have as many names as there are tongues, and these are numerous.

In the Malay and Javanese languages, and in all those of the Indian Archipelago, which have borrowed from them, the name for cotton is the Sanskrit one in the corrupt form already quoted, namely, *kapas*. It is not so, however, in the two principal languages of the Philippines, the Tagala and Bisaya, although these tongues have borrowed largely from the Malay and Javanese, and in them the name is *bulahi*. The furthest eastward among the Malayan Islands to which the cotton plant can be traced as an object of cultivation is the Island of Floris, which extends to the ninth degree of south latitude, and east to the 123rd of east longitude. This island is remarkable for producing the best cotton of the archipelago, and in its two chief languages, called the Endé and Mangarai, it has different native names, being called in the first *reru*, and in the last *kampa*. This leads to the probability that the cotton plant, notwithstanding its Sanskrit name in the two most cultivated languages of the archipelago, may yet be indigenous, and this supposition would seem to be strengthened by the fact that the names for distaff, shuttle, loom, thread, warp, woof, and cloth, in the most advanced languages, are all native words. Taking, then, all these facts into consideration, there seems no ground for believing that the Hindus introduced the culture of the plant and the cotton manufacture into the Malay and Philippine archipelagos. For all that etymology tells us to the contrary,

the cotton plant may be indigenous, and the manufacture from its wool a native art. We are not always entitled to conclude that it was introduced by the strangers to whose language the name belonged, unless accompanied by corroborative testimony, which in this case is wholly wanting. The probability is that the Hindu name was substituted for native ones. It belongs to the Sanskrit and not to any of the vernacular tongues of India, and is one of many words which found their way into the Malayan languages through the medium of commerce and religion in an intercourse between India and the Archipelago, which was at one time of considerable activity.

Cotton, or rather cloth made of it, is stated to have been mentioned for the first time in the annals of China, considered authentic, as far back as 110 years before the birth of Christ. This, however, gives to a knowledge of the plant a far too high an antiquity; for it is admitted that it was not until the sixteenth century of our time that cloth made of it became a staple manufacture of China. Thus in the very beginning of it (1502) an imperial cotton robe is stated to have been as rare as were the silk stockings of Queen Elizabeth at the end of it. The cotton manufactures of China, although substantial and durable, never attained the fineness of those of India; the cheapness and abundance of the Chinese silks, and even the fabrics made from the nettle, to be presently described, taking the place of the Indian muslins and long cloths.

Even the Persian language, which has taken so much from the Sanskrit, has not borrowed from it the name for cotton, which is *punja*, to all appearances a native word. In Arabic cotton is called *kâtn*, and this name, with little alteration, is that which prevails in all the languages of Europe. The Spanish peninsula was the only European country in which the Arabs effected a settlement of long duration, and here they introduced the cultivation of cotton, as they did in Syria, Asia Minor, and Egypt. The European nations made their first acquaintance with cotton through the Arabs. In Spanish the name for cotton is *algodon*, and in Portuguese *algodoa*, which are obvious corruptions of the word *kâtn*, with the Arabic article prefixed.

The culture of cotton never extended in Europe beyond Sicily and the South of Italy, and this only in consequence of their temporary occupation by the Arabs. In every other part of Europe cotton is known only as a foreign import, and as the first supplies of the wool were all derived from the Levant, that is, from Asia Minor, the Greek islands, and Syria, in which the Arabic languages had been long established, the names which it bears in all the languages of Europe are, with more or less corruption, derived from the Arabic. Thus in Italian it is *cotone*, in

French *coton*, and in English *cotton*. The Italians, indeed, have a synonyme, *bambagio*, the origin for which, I believe, has not been traced, unless we consider it a corruption of *bombyx*, a name which has been given in Latin to cotton, but as often to silk.

The word cotton is never mentioned by Shakespeare, and but for the occurrence in his plays of the name of one of the meanest of the fabrics made from it, "fustian," we should not have been aware, in so far as his authority is concerned, that a commodity was known in England three centuries ago which we are now yearly importing to the value of probably tenfold that of the revenue of Queen Elizabeth.

In France, however, lying nearer to the then countries of production, cotton was, no doubt, earlier introduced than it was in England; and my friend, Mr. Thomas Wright, so critically skilled in the Antiquities of the Middle Ages, has referred me to the glossary of Ducange, in which cotton is quoted under the names *Coto* and *Cotonum*, and as introduced into France as early as A.D. 1304, in the reign of Philip the Fair.

The other nations of Europe import cotton largely, although in less proportion. To every nation in the world we export it, in its manufactured state, while it contributes largely to our own clothing. Immemorially its fabrics have formed the chief clothing of the nations of the tropical and temperate regions of Africa and Asia. Thus, therefore, the mere hair or down of the seeds of a plant of the same natural family with the common mallow, may be said, of all plants next to the cereals, to have exercised the greatest influence on the industry and destiny of the world. It is remarkable that the cotton should be unique in its properties, the whole range of plants affording no perfect substitute for it, a fact sufficiently proved during the late dearth. With all other plants, it is the fibre of the stem that yields textile materials: with cotton it is the woolly envelope of the seed, attainable with less labour, that does so; while it is the sole plant of which this part of its structure yields a fibre of sufficient length and strength to admit of being spun into good thread.

The Chinese cultivate largely a species of nettle, the *Urtica nivæa* of botanists, for its fibres, and fabricate from it a cloth, far finer than any that they make from cotton-wool. In the economy of the Chinese, this nettle occupies the same place that flax does in Europe. But as this plant is, at least for textile purposes, unknown beyond China, it is unnecessary to enlarge upon it. The Malayan countries produce another species of urtica or nettle, yielding a very tough fibre—the *Urtica æstuans* of botanists. The fibres, however, are used by the

Malays only for cordage and fishing nets, and they have never acquired the skill so to dress them, as to render them fit for spinning and weaving.

The inhabitants of the Philippine Islands cultivate, as one of their staple crops, a peculiar species of banana, the *Musa textilis* of botanists, on account of the long, tough filaments contained within its soft herbaceous stem, the coarser of which are used for cordage, and the finer for the manufacture of cloth. The raw material, or dressed filaments, goes, in the principal language of the Philippines, under the name of *Abaca*, and the Colonial Spaniards give to the banana which yields it, the name of the *arbol de cañamo*, or hemp-tree, from whence our own commercial name of "Manilla hemp." The Abaca banana is cultivated over the whole of the Philippines, and for clothing its fibres are even more employed than cotton. Beyond these islands, however, the culture of the textile *musa* has not extended, although the plant be a native also of some of the Moluccas. The Manilla hemp makes an excellent cordage, and for this purpose has, within the last few years, been largely imported by ourselves. The Dutch have recently introduced the culture of the Abaca into a part of Celibes, the northern wing of that whimsically-shaped island, where it is not unlikely to succeed. It would most probably suit some of our own West India possessions.

The industrious Chinese have acquired the art of preparing a fine textile fabric from the fibres of the leaves of the Ananas or pine-apple, and instructed the natives of the Philippines in the process. The Chinese colonists in the Philippine Archipelago, where the pine-apple grows in great luxuriance with little care, prepare the thread which they export to China; but to what special uses to be there applied I am not aware, but probably to embroidery. In the Philippines, a fine and costly cloth is made from this material, known as the Piña, an abbreviation of the Piña de Indias, that is, Pine of the Indies, the Spanish name of the Ananas. This textile material is, of course, a comparatively modern one, since the pine-apple is a native only of America, the people of which seem never to have made the same use of the plant, a fact among many others, which proclaims the superiority of the Asiatic over the American races of man.

The only other textile material, which I have to notice, is Jute, the fibres of the bark of a liliaceous plant—the *Corchorus Olitorius* of botanists. The leaves of this plant have, in some parts of western Asia, been used as a pot-herb, and hence its scientific trivial name. But it is in India only, and chiefly in Bengal Proper, that it has been cultivated for its fibres, and its

name, correctly *just*, belongs to the language of that great province. In Bengal, the fibres of the jute have been immemorially employed in the manufacture of a coarse but strong canvas for the manufacture of sacks, at present largely exported to all the countries producing sugar and coffee. Jute has, of late years, been largely imported into this country, to be mixed with flax, hemp, and wool, in the manufacture of several useful fabrics.

TINCTORIAL PLANTS.

I come now to the question of tinctorial plants. The cultivated plants yielding dyeing materials known to Europe before Columbus and Digama had extended the field of human enterprise and industry, were few in number. I begin with them : Woad, the *Iatis tinctoria* of botanists, a cruciform plant, or one of the same natural family with the turnip and cabbage, was known to the Greeks and Romans, being the chief, and perhaps the sole, source of their blue dye. The plant, and the dye made from it, seem to have been known to our forefathers the Britons, who, according to Cæsar, used it for staining their persons, "so as to make them appear the more terrible in battle." It was, however, most probably used by them as a mere ornament, like the tattooing of the South Sea islanders, and even of some rude tribes of Southern Asia. When in the country of the Burmese, I had occasion to see several examples of women belonging to such tribes whose faces were so tattooed all over with indigo as to have nearly the same appearance as if they had been smeared with the dye itself. A time, no doubt, was when practices similar to this obtained among the now civilised nations of Asia, but at present they are unknown to Arabs, Persians, Hindus, and Chinese, while they still partially prevail with such people as the less civilised Burmese.

Woad appears to have been cultivated immemorially in many parts of Europe, but it is also cultivated in the northern provinces of China, and probably, if we are to judge by the name, even in Arabia. One of the names for woad in Chinese points at the locality of its production. This name is *keun-quan ta tsing* ; literally, "the great blue of Nankin."

Woad bears many different names, seemingly pointing to the different independent localities of which it is a native, or at least in which it was cultivated for its dye. Cæsar calls it *vitrum*, but its usual Latin name is *glastum*, a word which some etymologists have derived from the Celtic word *glas*, which they fancy to signify "blue;" but as the word happens to signify "grey," it is certain that their derivation must be groundless. The languages derived from the Latin retain

the usual name, with some modifications of form. Thus, in Italian and Spanish, the name is *glasto*. The common name of the plant in French is *pastal*, a word the origin of which seems difficult to trace, unless it be a very flagrant corruption of the Latin word. The Teutonic languages have their own distinct name for it. Thus we have it in German as *weide*, in Anglo-Saxon as *wad*, and in English as *woad*. But this Germanic word appears considerably disguised where it exists in the languages derived from the Latin as a synonyme. Thus, in the French it is *guède*, in Italian *guado*, and in Spanish *gualdo*. From this fact, I think it may be inferred that the Germanic nations were acquainted with the cultivature of woad for its dye before they conquered and settled in the southern countries of Europe.

The Basque language has a native name for woad, *urdin*—*belarra*, from which we may suppose that the culture of woad for its dye was known to the ancient Iberian people, whose language was Basque, before the conquest of their country by the Romans. The Welsh name for woad is *glaslys*, which I have little doubt is a corruption of the Latin, *glastum*; from which we infer that the plant was introduced into Wales, not by the Anglo-Saxons, but by Roman settlers, who most probably were Christian missionaries. In the Gaelic, or Irish language, there is no name for woad; and hence we conclude that the culture of woad never reached Ireland or the settlements of the Irish in Scotland.

The next dye to which I shall refer is Madder, the *Rubia tinctorum* of botanists, at present of far more importance than woad. Madder is a native of all the temperate parts of Europe, or has at least been immemorially introduced into them; for the plant has been cultivated at one time or another in all of them, although to the greatest extent in the warmest parts. In India, another species of the same genus is that which has been chiefly cultivated, but not to the exclusion of the European species. This, the *Rubia manjith*, is a less valuable article, as yielding less colouring matter. Two species of madder, or *rubia*, are also cultivated in China. Before America had furnished Europe with cochineal and India with the produce of the lac insect, madder was the only substance capable of giving a fast red colour.

The Latin name, *rubia*, has been adopted in the Spanish without change, and in the Italian with very little, as *robbia*. Probably it is the same word that is preserved in the French term *robé*, which signifies madder root freed from the epidermis; but the usual French name of the plant is *garance*, of the origin of which I find no account. Madder may be presumed

to have been cultivated in very ancient times in Spain, since we find it to bear in the Basque what has all the appearance of a native name, *ochharra*.

The Indian madder, as already stated, is for the most part a different species of the same genus, and bears in Sanskrit the name of *majith*. The Hindi, derived from this, is *manjith*, the commercial name of the article. It bears, however, a totally different name from this in the Tamil, for here we find it called *chapangis*.

Through all the Teutonic languages the name is essentially the same, the only exception being the German itself, in which the name is *rapp*, supposed to be derived from the French verb *raper*, to rasp. Thus it is *meddere* in Dutch, and in English *madder*, a mere difference of orthography. In Chinese, the most frequent name for madder literally signifies "earth-blood." From the many different names of this plant, we infer that, as a cultivated plant, it belongs to many different countries and climates.

Safflower, the *Carthamus tinctorius* of botanists, is a plant of a very wide geographical range, for we find it cultivated in many parts of Europe, of Western Asia, of India, and of China, while it reaches to remote Sumatra and Java, close to the equator. It is but rarely that, through lingual evidence, we can trace its migrations. The botanical name, *Carthamus*, is of uncertain origin, but supposed by some to be derived from the Arabic, to which, however, it is not traceable. We find the name in French as *carthame*; and in Italian and Spanish, as *cartamé*. In the languages of Latin origin, however, it is more frequently called "bastard saffron," and sometimes "Saracene saffron," that is, Arabian saffron; which leads to the suspicion that it was introduced into Europe through Spain by the Arabian conquerors of that country. The true Arabian name of the plant is *azafur*; from which, I strongly suspect, our own safflower is, by a strange corruption, derived. Our earliest supplies of this dye came from the Turkish dominions, and our traders (never good etymologists) may have corrupted the word into its present form. There is, however, another explanation of our English name which may be admissible, and having a similar source. The name for saffron in Arabic is *zafran*; and as it is the flowers of the plant that alone yield the dye, the English name may be equivalent to "flowers of saffron;" a mistake of a similar nature to that of the Latin nations, who call it "bastard saffron, or "Saracene saffron."

The Sanskrit name of the *Carthamus* is *kusuma*. By the elision of the final vowel (a frequent practice) this becomes, in the vernacular Hindi, *kusum*. The Sanskrit name is continued in the Telugu, or Telinga, language of Southern India; and

from thence has been conveyed to the Malay and Javanese, for the plant is cultivated in Java. Considering that safflower bears a distinct Sanskrit name, we may conclude that its culture has been of an antiquity coeval with the time in which that tongue was a living language. In Chinese, the name for safflower means simply "the red flower." The English consumption of this article is at present almost wholly derived from India, and especially from Bengal.

Saffron, the *Crocus sativa* of botanists, is said to be a native of Greece and Asia Minor, in which it has been immemorially an object of cultivation. But to judge by its name, it is also a native of Upper India, where it is still cultivated. The Latin name, *crocus*, is taken from the Greek, *krokos*; but nearly all the names of this plant in the modern languages of Europe are taken, with little alteration, from the Arabic one, which is *zafran*. Thus we have it in Spanish, with the article prefixed, as *azafran*; in Italian, as *zafferano*; in French, as *safran*; and in English, as *saffron*. The Italian alone has a synonyme, *gruozo*, which may be a flagrant corruption of the Latin *crocus*, in an oblique case. From this we may infer that the culture of the plant was first introduced by the Arabs into Spain, from whence it was extended to Italy and the South of France, which at present furnish the chief supplies of an article which has lost, and justly so, the high reputation which it once enjoyed in the *Materia Medica*.

In Sanskrit there are two names for saffron, namely, *kesar* and *kumkum*, the last of which is borrowed by the Hindi, while in the Tamil it bears the same name as turmeric, *manjal*. In Persian the name is *kurkum*, which, with the exception of a single letter, is the same as the Sanskrit. The Sanskrit name also obtains in the Malay and Javanese, the word being, for euphony, sometimes written and always pronounced *kungkuma*. In Chinese, the name of saffron is the same with that of safflower, the significant epithet "foreign" being added.

Turmeric, the *Curcuma longa* of botanists, is certainly a tropical plant and a native of India, of all its islands, of the Hindu-Chinese countries, and of tropical China, but unknown to equinoxial America. In all the countries named it is an object of culture for its brilliant but fugitive yellow dye, in some places for the food which its starch yields, but far more as a mild aromatic in cookery. In Sanskrit it is called *halda*, which in Hindi becomes *haldi*. In Tamil we have it as *manjal*; in Malay and Javanese, as *kuñit*; in the dialect of Amoboina, as *nmin*; and in that of Ternat, one of the five Moluccas, as *gorachi*. These frequent names point at the plant being a native of many independent localities, and, indeed, to several

independent cultivations of it. The Persian name is *zârd-chob*, literally, "yellow-stick;" a term which shows at once that the plant was known to the Persians only as an imported article, and this, no doubt, from India. I can find no name at all for it in Arabic.

As to the European names, they amount to little better than admissions of ignorance of its origin. The French, for instance, name it *saffran d'Inde*, or the saffron of India, and the German, *gelb wurzel*, that is, "yellow-root," which sets the German nomenclature about on a level with the Persian "yellow stick." The Spanish name is *curcuma*, which is the term which the botanists have adopted for the names of the genus to which turmeric belongs, and which these learned men fancy to be Arabic. For this, however, there seems to be no foundation, for the great Spanish dictionary, which aims at giving etymologies, observes of *curcuma*—that it is "a barbarous word confined to the shops." I am wholly unable to trace the source of our own word, turmeric. In Johnson's dictionary it is made to be derived from the Latin *turmerica*. But, how could a Latin name be given to a commodity which could hardly have been known to Europe, before the discovery of the route to India, by the Cape of Good Hope?

Arnotto, the *Bixa Orellana* of botanists, is a native of Equinoctial America and its islands. But, being a hardy plant and readily propagated by its seeds, it is now to be found in a wild state, but never in a cultivated one, in the Malay Islands and in southern India. Its Malayan name proclaims its foreign origin. This is Kasumba Kling, literally, "Safflower of Kalinga, or Telingana, that is, of the Telugu country, or the coast of Coromandel, which is with the Malays the name given to all India, and not unfrequently to any foreign country. The Telugus or Gentoos, as they used to be called by Europeans, as well as the Malays, most probably received the plant from the Portuguese, and have not thought it worth cultivation.

I come finally to the most important and valuable dye of the vegetable kingdom,—Indigo. Several genera of plants will yield this blue-colouring matter, but the indigo of commerce is supplied by the botanical genus to which it gives name—*Indigofera*, and of the many species of this genus, chiefly by two. For India, its islands, and China, it is furnished by the *Indigofera Tinctoria*, and for America by the *Indigofera anyl*. These are shrubby plants of the natural family of the *Siliquosa* or pod-producing plants. One or other of the species of the genus yielding indigo, is a native of equinoctial Africa, Asia, and America. Although the plants yielding indigo be natives of the intertropical countries, they admit of being cultivated, and

are cultivated up to the 30th degree of latitude, although there yielding less dye, and that of inferior quality.

The Greeks and Romans were acquainted with indigo, but only as the product of a remote country. They never cultivated the plant, yet both nations might have done so, for the climate of Upper Egypt, of which they were masters, would have admitted of its culture, while the seed might have been received from the western side of India, with which both people held a commercial intercourse through Egypt.

Of the nature of indigo, however, the ancients absolutely knew nothing, for the Greek Dioscorides describes it as a stone or earth; and Pliny tells us expressly that it was the “mud of Indian rivers.” They used it only as a pigment, and never as a dye. The Greeks and Romans probably made their first acquaintance with indigo, through the Persians, and hence their name for it—*indicon*, or *Indicum*, derived from the Persian name of the country of the producers, namely Hind. From the Greek names, then, come the names of the drug, more or less corrupted in all the modern languages of Europe.

The Hindus were the first, and indeed the only, people of the Old World, who had acquired the art of precipitating the fecula containing the colouring matter from the watery infusion of the fresh plant, and drying them into cakes or balls, so as to make them portable. But for this discovery, indigo never would have reached distant Greece and Italy. Even down to the present day, the indigo of the Chinese, of the Hindu Chinese, and of the Malayan nations, is but a fetid liquor produced by the mere maceration and decomposition of the plant.

The Sanscrit name of both the plant and drug, is *Nila*, corrupted in the vernacular Hindi into *Nil*, and even *Lil*. The word, both in the original and derivative language, signifies also “blue,” the noun being in all probability taken from the adjective. In the Tamil the same word is changed into *Nilam*; and in one or other of these forms, it is found in all the current Hindu languages. From this we may, I think, fairly infer, that the art of extracting a blue dye from the indigo plant was the invention of the Hindus of Upper or Northern India; and that the discovery was not made, while those, whose language was Sanskrit, were still in their parent country, believed to have been a cold plateau of Central Asia, where the plant would not grow, or at all events, yield a dyeing matter, but after they had settled in India, where the plant is indigenous.

The Sanskrit name has been introduced into all the languages of the Malay and Philippine archipelagos without alteration. In these, however, the names given to the drug and the plant are

wholly different, and this last, with variations of orthography, is one and the same nearly in all of them. We have it for example, in Malay as *tarum*, in Javanese as *tom*, in the Sunda of Java as *talum*, in one language of the Philippines, the Tagala, as *tayum*, and in another, the Bisaya, as *tayung*. From this it is fair to argue that the art of extracting the dye was first introduced among the more civilised people of the Malay archipelago, namely, the Malays and Javanese, by the Hindus, but that the plant which is here throughout the *Indigofera tinctoria*, or that cultivated in continental India, is a native at least of Sumatra and Java, from whence it was conveyed along with the art of preparing a dye from it, to the remote Philippines.

The culture of the indigo plant for its dye has been immemorially carried on in China, and is probably of as great antiquity in that country as in India, although it is the latter alone that in ancient and modern times has supplied the drug to the western world. According to Sir John Davis, the name of the dye is *tsing*, of the solid drug *tsing-ping*, that is, “Indigo cake”, and of the plant, *tsing-heva*, literally “indigo flower.”

The culture of the indigo plant for its dye has never existed in Persia, the Persians receiving the drug with its name from India, the latter being used as with the Hindus to express a blue colour. It may be presumed that it was they who gave the name of the Nilab, signifying the “blue water,” to the River Nile, although on what good ground it is difficult to say, seeing that the Nile is not of a blue but of a dirty mud-brown colour. According to the learned *Dictionary* of Dr. Smith, the name of the Nile in the ancient language of Egypt is *Atur* or *Aur*, signifying “the River.” The Hebrew name for it is *Sachar*, meaning also “the River,” with *Yeor*, a corruption of the Egyptian name.

But the Hindus were not the only people who had learned to extract a blue colour from an indigo plant. The Spanish conquerors found the Mexicans in possession of indigo, and dyeing their cotton fabrics with it. By chance, too, the Mexican name happened to bear some resemblance to the Indian one. It was called by the Mexicans *anyr*; converted in some dialects of the Aztec language by exchange of one liquid for another into *anyl*. The Spaniards adopted the last of these forms, and the word *anyl* stands in the Spanish dictionaries for the “indigo” of all the other European languages. On no better foundation than this approximation in sound is founded the theory of some ethnologists, and among them of Alexander Humboldt, that the Nila of the Sanskrit is essen-

tially the same word as the *anyr* or *anyl* of the Mexicans. This idle conclusion has been arrived at in the teeth of two very obstinately incompatible facts; the first that the plants cultivated for indigo in India and in America are two distinct species, the one peculiar to Asia and the other to America, and the second that there is no proved community in words, in structure, or in sound between any of the Indian and any of the American languages.